P27709.A01

Applieation No. 10/531,664

Applieation No. 10/531,664

IN THE UNITED STATES PATEIN AND TRADEMARK OFFICE

**Applicants** 

Tetsuo NAGANO et al.

JUN US 7006

Group Art Unit: Not Yet Assigned

Appln. No.

10/531,664

(U.S. National Phase of PSTAGE 3/013179

Examiner: Not Yet Assigned

I.A. Filed

: October 15, 2003

Conf. No: 1923

For

: REAGENTS FOR THE MEASUREMENT OF PEROXYNITRITES

## INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
U.S. Patent and Trademark Office
Customer Service Window, Mail Stop AMENDMENT
Randolph Building
401 Dulany Street
Alexandria VA 22314

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants hereby bring the following information to the attention of the Examiner, which includes information cited and discussed in the specification, the International Search Report, and the International Preliminary Examination Report issued in connection with counterpart International Application No. PCT/JP2003/013179. Copies of the International Search Report (in English and Japanese), and the International Preliminary Examination Report (in English and Japanese) were enclosed with the papers when entering the National Stage on April 15, 2005. The Examiner is invited to review these materials to inspect the relevance indicated during international examination with respect to the documents cited therein.

(1) WO 01/64664 A1, accompanied by family member EP 1 260 508 A1, and which is cited and discussed in the specification beginning on page 2;

- (2) JP 06-211831, accompanied by an English language abstract and family member U.S. Patent No. 5,451,343;
- (3) William A. PRYOR et al., "A Practical Method for Preparing Peroxynitrite Solutions of Low Ionic Strength and Free of Hydrogen Peroxide," Free Radical Biology & Medicine", Vol. 18, No. 1, pp. 75-83 (1995), which is cited and discussed in the specification beginning on page 7;
- (4) Stephen L. HEMPEL et al., "Dihydrofluorescein Diacetate is Superior for Detecting Intracellular Oxidants: Comparison with 2',7'-Dichlorodihydrofluorescein Diacetate, 5(and 6)-Carboxy-2',7'-Dichlorodihydrofluorescein Diacetate, and Dihydrorhodamie 123," Free Radical Biology & Medicine, Vol. 27, Nos. 1/2, pp. 146-159 (1999), which is cited and discussed in the specification beginning on page 7; and
- (5) Joseph A. HRABIE et al., "New Nitric Oxide-Releasing Zwitterions Derived from Polyamines," J. Org. Chem. Vol. 58, pp. 1472-1476 (1993), which is cited and discussed in the specification beginning on page 8.

Applicants also bring the to the attention of the Examiner the following documents:

- (6) U.S. Pat. No. 6,903,226;
- (7) U.S. Pat. App. Publication No. 2003/0157727;
- (8) U.S. Pat. App. Publication No. 2003/0153027;
- (9) U.S. Pat. App. Publication No. 2005/0037332;
- (10) U.S. Pat. App. Publication No. 2005/0064308;
- (11) U.S. Pat. App. Publication No. 2005/0182253;
- (12) U.S. Pat. App. Publication No. 2006/0030054;

- (13) U.S. Application No. 10/531,664, which is a National Stage Application of PCT/JP2003/013179, and which published as WO 2004/040296;
- (14) U.S. Application No. 10/570,355, which is a National Stage Application of PCT/JP2004/013185, and which published as WO 2005/024049;
- (15) U.S. Pat. App. No. 11/433,691, which is a continuation of 10/994,380 which published as U.S. Pat. App. Publication No. 2005/0064308, which is a divisional of 10/203,628, and now U.S. Pat. No. 6,903,226;
- (16) U.S. Pat. App. No. 11/382,424, which is a continuation of U.S. Application No. 10/204,417 which published as U.S. Pat. App. Publication No. 2003/0153027, and which U.S. Application No. 10/204,417 is a National Stage Application of PCT/JP2001/01504, and which published as WO 01/63265;
- (17) U.S. Pat. No. 6,756,231;
- (18) U.S. Pat. No. 6,469,051;
- (19) U.S. Pat. No. 6,441,197;
- (20) U.S. Pat. App. Publication No. 2005/0123478;
- (21) U.S. Pat. App. Publication No. 2005/0130314;
- (22) U.S. Pat. App. Publication No. 2004/0147035;
- (23) U.S. Pat. App. Publication No. 2004/0043498;
- (24) U.S. Patent No. 6,013,802;
- (25) U.S. Patent No. 6,833,386;
- (26) U.S. Patent No. 6,569,892;
- (27) U.S. Patent No. 5,874,590;

- (28) U.S. Patent No. 5,648,270;
- (29) U.S. Patent No. 6,469,051;
- (30) U.S. Patent No. 6,525,088;
- (31) U.S. Patent No. 6,569,892;
- (32) U.S. Patent No. 6,201,134;
- (33) U.S. Patent No. 5,874,590;
- (34) U.S. Patent No. 5,208,148;
- (35) Reyes, J.G., et al., Biol. Res., 27, pp. 49-56, 1994;
- (36) Tsuda, M., et al., Neurosci., 17, pp. 6678-6684, 1997;
- (37) Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996;
- (38) Saibou Kougaku (Cell Technology), 17, pp. 584-595, 1998;
- (39) Tanpakushitsu.Kakusan.Kouso (Protein, Nucleic Acid and Enzyme), extra number, 42, pp. 171-176, 1997;
- (40) Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997;
- (41) Handbook of Fluorescent Probes and Research Chemicals, 6th Edition by Richard P. Haugland, pp. 503 and 531-540;
- (42) Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & Sons, Inc. pp. v-xxi and 369-405;
- (43) JP 2000-239272 A (T. NAGANO et al.), 5 September 2000, accompanied by an English language abstract thereof (provided by Patent Abstracts of Japan);
- (44) Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212;
- (45) Anal. Chem. (1998), 70(13), pp. 2446-2453;

- (46) Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916, (1996);
- (47) Bioorg. Khim. (1995), 21(10), pp. 795-801;
- (48) Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555;
- (49) J. Am. Chem. Soc. (1996), 118, pp. 6514-6515;
- (50) Hirano T. et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications", J. Am. Chem. Soc., Vol. 122, No. 49, 13 December 2000, pp. 12399-12400;
- (51) Walkup G. K. et al., "A New Cell-Permeable Fluorescent Probe for Zn<sup>2+</sup>",J. Am. Chem. Soc., Vol. 122, No. 23, 14 June 2000, pp. 5644-5645;
- (52) WO 00/00819;
- (53) WO 89/09408;
- (54) WO 96/42016;
- (55) WO 98/15830;
- (56) WO 99/15896;
- (57) BAMBOT, S.B. et al., "Potential Applications of Lifetime-Based, Phase-Modulation Fluorimetry in Bioprocess and Clinical Monitoring", Trends in Biotechnology, Vol. 13, No. 3, March 1995, pages 106-115, XP 004207135;
- (58) SIPIOR, J. et al., "Lifetime-Based Optical Sensing of pH Using Resonance Energy Transfer in Sol-Gel Films", Sensors and Actuators B; Vol. 22, No. 3, December 1994, pages 181-188, XP004011062;
- (59) SELVIN, P.R. et al., "Luminescence Energy Transfer Using a Terbium Chelate: Improvements on Fluorescence Energy Transfer", Proceedings

- of the National Academy of Science of USA, National Academy of Science, Washington, DC, US, Vol. 91, October 1994, Pages 10024-10028;
- (60) U.S. Patent No. 5,656,433, and family members U.S. Patent Nos. 5.622,821, and 5,639,615;
- (61) Yuan, J. et al., "Functionalization of Fluorescent Lanthanide Complexes and Their Applications to Biotechnology", Bunseki Kagaku Japan Analyst; Vol. 48, No. 12, pages 1077-1083 (1999), XP002932633;
- (62) JP 9-101262 A (GOLIGHT INC), 15 April 1997, accompanied by an English language abstract thereof;
- (63) U.S. Patent No. 4,891,075;
- (64) U.S. Patent No. 4,968,631;
- (65) U.S. Patent No. 5,340,716;
- (66) U.S. Patent No. 5,800,996;
- (67) U.S. Patent No. 5,863,727;
- (68) JP 5-180773 A, accompanied by an English language abstract thereof;
- (69) JP 10-88124 A, accompanied by an English language abstract thereof;
- (70) JP 2000-111480 A, accompanied by an English language abstract thereof;
- (71) Rogers, M. V., Drug Discovery Today, Vol. 2, pp. 156-160, 1997;
- (72) Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 117, pp. 8132-8138, 1995;
- (73) Stryer, L., Ann. Rev. Biochem., Vol. 47, pp. 819-846, 1978;
- (74) Hemmilä, I., et al., Drug Discovery Today, Vol. 2, pp. 373-381, 1997;

- (75) New Apoptosis Experimental Protocol, 2nd ed., Yodosha, pp. 201-204, 1999;
- (76) Selvin, P. R., et al., J. Am. Chem. Soc., Vol. 116, pp. 6029-6030, 1994;
- (77) J. BURCH, "The Inhibition of Horse-Liver Esterase by Rhodamine B," Biochemical Journal, Vol. 59, pp. 97-110 (1955);
- (78) D.D. THOMAS et al., "Flourescence energy transfer in the rapid-diffusion limit," Proceedings of the National Academy of Sciences of the United States of America, Vol. 75, No. 12, pp. 5746-5750 (1978);
- (79) S.M. YEH et al., "Characterization of Transferin Metal-Binding Sites by Diffusion-Enhanced Energy Transfer," Biochemistry, 19, pp. 5057-5062 (1980);
- (80) R.A. EDWARDS et al., "Spectroscopic Studies of Cibacron Blue and Congo Red Bound to Dehydrogenases and Kinases. Evaluation of Dyes as Probes of the Dinucleotide Fold," Biochemistry, Vol. 18, No. 23, pp. 5197-5204 (1979);
- (81) C.F. MEARES et al., "Diffusion-Enhanced Energy Transfer Shows Accessibility of Ribonucleic Acid Polymerase Inhibitor Binding Sites," Biochemistry, 20, pp. 610-617 (1981);
- (82) T.G. WENSEL et al., "Electrostatic Properties of Myoglobin Probed by Diffusion-Enhanced Energy Transfer," Biochemistry, 22, pp. 6247-6254 (1983);

- (83) M.M. FEDERICI et al., "Interaction of Cibacron Blue F<sub>3</sub>GA with Glutamine Synthetase: Use of the Dye as a Conformational Probe. 1. Studies Using Unfractionated Dye Samples," Biochemistry, 24, pp. 647-660 (1985);
- (84) T.G. WENSEL et al., "Diffusion-Enhanced Lanthanide Energy-Transfer Study of DNA-Bound Cobalt(III) Bleomycins: Comparisons of Accessibility and Electrostatic Potential with DNA Complexes of Ethidium and Acridine Orange," Biochemistry, 24, pp. 3060-3069 (1985);
- (85) B.S. ISAACS et al., "A Domain of Membrane-Bound Coagulation Factor
  Va ls Located Far from the Phospholipid Surface. A Fluorescence Energy
  Transfer Measurement," Biochemistry, 25, pp. 4958-5969 (1986);
- (86) T.G. WENSEL et al., "Study of Biological Macromolecules by Diffusion-Enhanced Lanthanide Energy Transfer," Journal of the Less-Common Metals, 149, pp. 143-160 (1989);
- (87) P.R. SELVIN et al., "Luminescence Resonance Energy Transfer," Journal of the American Chemical Society, 116, pp. 6029-6030 (1994);
- (88) T. YAMAMOTO et al., "Determination of Electrostatic Potential Around Specific Locations on the Surface of Actin by Diffusion-enhanced Fluorescence Resonance Energy Transfer," Journal of Molecular Biology, 241, pp. 714-731 (1994);
- (89) S.C.J. MESKERS et al., "Analysis of Delayed Luminescence from Some Quenchers of Tb(DPA)<sub>3</sub><sup>3</sup>- Emission: Proof for an Energy Transfer Quenching Mechanism," Journal of Alloys and Compounds, 250, pp. 332-335 (1997);

- (90) D.D. ROOT, "In situ Molecular Association of Dystrophin with Actin Revealed by Sensitized Emission Immuno-Resonance Energy Transfer," Proceedings of the National Academy of Sciences of the United States of America, 94, pp. 5685-5690 (1997);
- (91) C. MUCIGNAT-CARETTA et al., "Building of Two Fluorescent cAMP Analogues to Type I and II Regulatory Subunits of cAMP-Dependent Protein Kinases," Biochimica et Biophysica Acta, 1357, pp. 81-90 (1997).
- (92) Y.-W. PARK et al., "Homogeneous Proximity Tyrosine Kinase Assays:

  Scintillation Proximity Assay versus Homogeneous Time-resolved

  Fluorescence," Analytical Biochemistry, 269, pp. 94-104 (1999):
- (93) K. BLOMBERG et al., "Terbium and Rhodamine as Labels in a Homogeneous Time-resolved Fluorometric Energy Transfer Assay of the β Subunit of Human Chorionic Gonadotropin in Serum," Clinical Chemistry, 45, 855-861 (1999);
- (94) L.L. PEARCE et al., "Role of Metallothionein in Nitric Oxide Signaling as Revealed by a Green Fluorescent Fusion Protein," Proceedings of the National Academy of Sciences of the United States of America, 97, pp. 477-482 (2000);
- (95) M. KORESAWA et al., "Development of a Time-Resolved Fluorometric Detection System Using Diffusion-Enhanced Energy Transfer," Analytical Chemistry, 72, pp. 4904-4907 (2000).
- (96) U.S. Patent No. 5,037,615;
- (97) U.S. Patent No. 5,246,867;

- (98) U.S. Patent No. 5,622,821;
- (99) U.S. Patent No. 6,753,156;
- (100) U.S. Patent No. 6,936,687;
- (101) U.S. Patent No. 6,972,182;
- (102) U.S. Patent Application Publication No. 2002/0177120;
- (103) U.S. Patent No. 5,623,080;
- (104) U.S. Patent No. 6,525,088;
- (105) EP 0515133 A2;
- (106) JP 60-54381 A, accompanied by an English language abstract thereof;
- (107) T. NAGANO et al., "Specific Detection Method and Useful Generating System of Singlet Oxygen," Free Radicals in Clinical Medicine, Vol. 7, pp. 35-41 (1993);
- (108) I. SAITO et al., "Methyl-Substituted Poly(vinylnaphthalene) as a Reversible Singlet Oxygen Carrier," J. Am. Chem. Soc., Vol. 107, pp. 6329-6334, 1985;
- (109) T. W. Greene et al., "Protective Groups in Organic Synthesis," John Wiley & Sons, Inc., pp. v-xxi and 369-405 (1981);
- (110) J. KABATC et al., "Free Radical Polymerization Initiated via Photoinduced Intermolecular Electron Transfer Process: Kinetic Study 3<sup>1</sup>," Polymer 40(3), pp. 735-745 (1999);
- (111) K. SETSUKINAI et al., "Fluorescence Switching by O-dearylation of 7-aryloxycoumarins. Development of Novel Flourescence Probes to Detect

- Reactive Oxygen," J. Chem. Soc., Perkin Trans. 2, 12, pp. 2453-2457, (2000);
- (112) J.W. FIRTH et al., "Some Phenoxy-2H-benzo[b]pyrans," J. Chem. Research (S), Vol. 2000, No. 7, pp. 308-308 (July 2000);
- (113) U.S. Patent No. 6,656,927;
- (114) J.G. REYES et al., "A Fluorescence Method to Determine Picomole

  Amounts of Zn(II) in Biological Systems," Biol. Res., Vol. 27, pp. 49-56,

  (1994);
- (115) M. TSUDA et al., "Expression of Zinc Transporter Gene, ZnT-1, Is Induced After Transient Forebrain Ischemia in the Gerbil," The Journal of Neuroscience, Vol. 17, No. 17, pp. 6678-6684 (September 1, 1997);
- (116) T. KOIKE et al., "A Novel Biomimetic Zinc(II) Fluorophore,
  Dansylamidoethyl-Pendant Macrocyclic Tetraamine 1,4,7,10Tetraazacyclododecane (Cyclen)," J. Am. Chem. Soc., Vol. 118, 1996, pp. 12696-12703;
- (117) Japanese Laid-Open Patent Publication No. 2000-239272, together with an English language Abstract of the same;
- (118) Web site of the Pharmaceutical Society of Japan, on February 1, 2003, a copy of the screenshot is enclosed. The subject matter of the screenshot was then published in an Abstract of "The 123<sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan" on March 5, 2003 for presentation No. 29[P1]I-219 entitled "Development of Fluorescent Probe Having Low

- Affinity for Zinc" in the 123<sup>rd</sup> Annual Congress of the Pharmaceutical Society of Japan held on March 27-29, 2003.
- (119) Newport Green: A Catalog of Molecular Probes, Inc. "Handbook of Fluorescent Probes and Research Chemical, Chapter 22 – Section 22.7 Fluorescent Indicators for Zn<sup>2+</sup> and Other Metals", 6<sup>th</sup> Edition by Richard P. Haugland, pp. 531-540 (1996);
- (120) Toshiaki HIRATSUKA, "Tanpakushitsu-Kakusan-Kouso (Protein, Nucleic Acid and Enzyme)", Vol. 42, No. 7, pp. 171-176 (1997);
- (121) ANDEREGG et al., Helvetica Chimica Acta, Vo.. 50, pp. 2330-2333 (1967);
- (122) T. HIRANO et al., "Highly Zinc-Selective Fluorescent Sensor Molecules Suitable for Biological Applications," Journal of the American Chemical Society, Vol. 122, No. 49, pp. 12399-12400 (2000);
- (123) R.P. HAUGLAND, "Handbook of Fluorescent probes and Research Products," 9<sup>th</sup> Edition Supplement, Chapter 20, pp. 805-817 (2002);
- (124) G.K. WALKUP et al., "A New Cell-Permeable Fluorescent Probe for Zn<sup>2+</sup>,"

  Journal of the American Chemical Society, Vol. 122, No. 23, pp. 5644
  5645 (2000);
- (125) J. KAWAKAMI et al., "Ab initio Molecular Orbital Study of Emission Mechanism of 2,6-Bis (quinolinecarboxy) methylpyridine as Fluorescent Chemosensors for Zinc and Cadmium Ions," Journal of Computer Chemistry, Japan, Vol. 2, No. 2, pp. 57-62 (2003);

- (126) C.J. FREDERICKSON et al., "A quinoline fluorescence method for visualizing and assaying the histochemically reactive zinc (bouton zinc) in the brain," Journal of Neuroscience Methods, Vol. 20, pp 91-103 (1987);
- (127) D. ZALEWSKI et al., "Correlation of apoptosis with change in intracellular labile Zn(II) using Zinquin [(2-methyl-8-*p*-toluenesulphonamido-6-quinolyloxy)acetic acid], a new specific fluorescent probe for Zn(II)," Biochemical Journal, Vol. 296, Part 2, pp. 403-408 (1993);
- (128) JP 10-226688, accompanied by an English language abstract and family member U.S. Patent No. 5,874,590;
- (129) L. LINDQVIST et al., "Radiationless Transitions in Xanthene Dyes", J. Chem. Phys., Vol. 44, pp. 1711-1712 (1966);
- (130) WO 99/51586, and family member U.S. Patent No. 6,525,088 B1;
- (131) JP 2000-239272, accompanied by an English language abstract;
- (132) Richard P. HAUGLAND, Handbook of Fluorescent Probes and Research Chemicals, Sixth Edition, Chapters 22 24, pp. 503-584 (1996);
- (133) Theodora W. Greene, Protective Groups in Organic Synthesis, Chapter 7, pp. 218-287 (1981);
- (134) JP 6-207112 A, accompanied by an English language abstract and family members EP 0 582 836 A1, and U.S. Patent Nos. 5,380,880, 5,302,731, and 5,393,514;
- (135) JP 08-271430, accompanied by an English language abstract;
- (136) EP 0 314 480 A, and family member U.S. Patent No. 5,049,673;

- (137) Rajendra Nath SEN et al., "The Condensation of Primary Alcohols with Resorcinol and Other Hydroxy Aromatic Compounds", J. Am. Chem. Soc., vol. 47, pp. 1079-1091 (1925), XP002332482;
- (138) WO 01/62755, and family members U.S. Patent Application Publication Nos. 2003/162298 A1 and 2005/064308 A1;
- (139) EP 1 260 510 A, and family members U.S. Patent Application Publication Nos. 2003/162298 A1 and 2005/064308 A1;
- (140) EP 1 069 121 A, and family member U.S. Patent No. 6,525,088 B1.
- (141) U.S. Patent No. 6,403,625;
- (142) R. KURDUKER et al., "Search for Physiologically Active Compounds", Proc. Indian. Acad. Sci. Sect. A., Vol. 57, pp. 280-287 (1963), which is cited on page 18 of the specification;
- (143) A. MINTA et al., "Fluorescent Indicators for Cytosolic Calcium Based on Rhodamine and Fluorescein Chromophores", J. Biol. Chem., Vol. 264, No. 14, pp. 8171-8178 (1989), which is cited on page 18 of the specification; and
- (144) P.K. Grover et al., "Xanthones. Part IV. A New Synthesis of Hydroxyxanthones and Hydroxybenzophenones," J. Chem. Sci. (London), pp. 3982-3985 (1955).

In accordance with 37 C.F.R 1.98, a copy of the U.S. Patents and U.S. Patent Application Publications are not enclosed herewith. However, if copies are needed, the Examiner is respectfully requested to contact the undersigned.

P27709.A01

Application No. 10/531,664

Copies of the above-noted documents, except for the U.S. Patents and U.S. Patent Application Publications are enclosed together with a duly completed Form PTO-1449. The Examiner is accordingly requested to consider each of these documents, and to make them of record in this application by initialing in the appropriate spaces on the Form PTO-1449. Applicants respectfully requests that the Examiner include a copy of the initialed Form PTO-1449 with the next communication from the U.S. Patent and Trademark Office.

Applicants note that while this Information Disclosure Statement is being filed more than three months from the filing date, Applicants have not received an action on the merits from the U.S. Patent and Trademark Office. Accordingly, consideration of the enclosed document is required under 37 C.F.R. 1.97(b)(3).

However, if an action on the merits has been mailed prior to the filing date of this Information Disclosure Statement, Applicants hereby authorize the charging of any required fees necessary for consideration of the documents cited herein to Deposit Account No. 19-0089.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed telephone number.

Respectfully submitted, Tetsuo NAGANO et al.

Bruce H. Bernstein

Reg. No. 29,027

Stephen M. Roylance Reg. No. 31,296

June 2, 2006 GREENBLUM & BERNSTEIN, P.L.C. 1950 Roland Clarke Place Reston, VA 20191 (703) 716-1191

. Department of Commerce Patent and Trademark Office

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Application No. 10/531,664

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use several sheets if necessary)

Applicant Tetsuo NAGANO et al.

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	3	O) Di	Stephen L. HEMPEL et al., "Dihydrofluorescein Diacetate is Superior for Detecting Intracellular Oxidants: Comparison with 2',7'-Dichlorodihydrofluorescein Diacetate, 5(and 6)-Carboxy-2',7'-Dichlorodihydrofluorescein Diacetate, and Dihydrorhodamie 123," Free Radical Biology & Medicine, Vol. 27, Nos. 1/2, pp. 146-159 (1999).													
	3	Jo Or	sep g. C	h A. Chen	HR n. Vo	ABI	E e 3, p	al.	, "New Nitri 172-1476 (1	c Oxide-F 993).	eleasing 2	Zwitterions	Derived	from F	olyamin	es," J.
	4	Re	eyes	, J.C	Э., е	t al.,	Bic	l. R	es., 27, pp. 4	19-56, 199	94.					
	5	Ts	uda	, M.	, et a	al., N	leur	osc	i., 17, pp. 66	78-6684,	1997.					
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if not in conformance and not considered. Include copy of this form with next communication to applicant.

. Department of Commerce Patent and Trademark Office

Atty. Docket P27709

Application No. 10/531,664

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)

**Applicant** Tetsuo NAGANO et al.

Group

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			ОТ	THER	DOC	CUM	ENT	S (Including Au	uthor, Title,	Date, Pertino	ent Pages, Et	c.)			
6	Ko	ke,	Т., є	et al	., J.	Am	. Ch	em. Soc., 11	18, pp. 12	696-12703	1996				
7	Sa	bou	l Ko	ügal	κu (0	Cell	Tec	hnology), 17	, pp. 584	595, 1998					
8	Ta:	npal 97,	kush	nitsu	.Kal	Kusa	an.K	ouso (Protei	n, Nucleio	Acid and	Enzyme), e	xtra nu	ımber, 4	2, pp. 17	1-176,
9	Te	suji	Kar	neta	ani, I	Nan	kod	Co., Ltd., p	p. 214-21	5, 1997.					
10	Ha pp.	ndb 503	ook 3 an	of I	=luo 31-5	reso 40.	ent	Probes and	Researc	h Chemica	als, 6th Edi	tion by	Richard	d P. Hau	gland,
11			tive	Gro	ups	in C	Orga	nic Synthes	is, T. W.	Greene, Jo	hn Wiley &	Sons,	Inc. pp.	v-xxi an	d 369-
12	En	glisł	ı La	ngu	age	Abs	trac	t of JP 2000	-239272.						
13							-			-3212					
14	An														
15	Bic	org	anic	& N	/ledi	cina	l Ch	emistry, Vol	.4, No.6,	op. 901-916	5, (1996				<del></del>
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17										)-555.					
18	J. /	J. Am. Chem. Soc. (1996), 118, pp. 6514-6515,													
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	9 6 7 8 9 10 11 12 13 14 15 16 17 18	5 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 2 5 8 5 2 6 5 5 6 5 6 5 6 4 8 4 9 5 3 5 8  DOC 000 - 2 7  6 Koike, 7 Saibou 8 Tanpal 1997, 9 Tetsuji 10 Handb pp. 503 11 Protect 405. 12 English 13 Angew 14 Anal. C 15 Bioorg 16 Bioorg 17 Sci. Ch 18 J. Am.	6 2 0 5 8 7 5 2 0 6 5 2 5 6 5 5 6 2 5 6 3 4 8 9 4 9 6 5 3 4 5 8 0  DOCUME 000 - 2 3 7 5 01 6 Koike, T., of 7 Saibou Ko 8 Tanpakush 1997, 9 Tetsuji Kar 10 Handbook pp. 503 an 11 Protective 405. 12 English La 13 Angew. Ch 14 Anal. Cher 15 Bioorganic 16 Bioorg. Kh 17 Sci. China 18 J. Am. Che	6 2 0 1 5 8 7 4 5 2 0 8 6 5 2 5 5 6 5 6 5 6 2 2 5 6 3 9 4 8 9 1 4 9 6 8 5 3 4 0 5 8 0 0  DOCUMENT N 000 - 2 3 9 7 5 1 OTHER 6 Koike, T., et al 7 Saibou Kougal 8 Tanpakushitsu 1997, 9 Tetsuji Kameta 10 Handbook of N pp. 503 and 53 11 Protective Gro 405. 12 English Langua 13 Angew. Chem. 14 Anal. Chem. (1 15 Bioorganic & N 16 Bioorg. Khim. (1 17 Sci. China, Sei 18 J. Am. Chem.	6 2 0 1 1 5 8 7 4 5 5 2 0 8 1 6 5 2 5 0 5 6 5 6 4 5 6 2 2 8 5 6 3 9 6 4 8 9 1 0 4 9 6 8 6 5 3 4 0 7 5 8 0 0 9  DOCUMENT NUMI 000 - 2 3 9 2 7 5 1 5 OTHER DOC 6 Koike, T., et al., J. 7 Saibou Kougaku (0 8 Tanpakushitsu. Kal 1997, 9 Tetsuji Kametani, I 10 Handbook of Fluo pp. 503 and 531-5 11 Protective Groups 405. 12 English Language 13 Angew. Chem., Int 14 Anal. Chem. (1998 15 Bioorganic & Medi 16 Bioorg. Khim. (1998 17 Sci. China, Ser. B: 18 J. Am. Chem. Soc	6 2 0 1 1 3 5 8 7 4 5 9 5 2 0 8 1 4 6 5 2 5 0 8 5 6 5 6 4 3 5 6 5 6 4 3 5 6 2 2 8 2 5 6 3 9 6 1 4 8 9 1 0 7 4 9 6 8 6 3 5 3 4 0 7 1 5 8 0 0 9 9  DOCUMENT NUMBER 000 - 2 3 9 2 7 7 5 1 5 8 OTHER DOCUM 6 Koike, T., et al., J. Am 7 Saibou Kougaku (Cell 8 Tanpakushitsu Kakusa 1997, 9 Tetsuji Kametani, Nan 10 Handbook of Fluoresc pp. 503 and 531-540. 11 Protective Groups in Cause of the color of th	6 2 0 1 1 3 4  5 8 7 4 5 9 0  5 2 0 8 1 4 8  6 5 2 5 0 8 8  5 6 5 6 4 3 3  5 6 2 2 8 2 1  5 6 3 9 6 1 5  4 8 9 1 0 7 5  4 9 6 8 6 3 1  5 3 4 0 7 1 6  5 8 0 0 9 9 6   DOCUMENT NUMBER  000 - 2 3 9 2 7 2.  7 5 1 5 8 6  OTHER DOCUMENTS  6 Koike, T., et al., J. Am. Ch  7 Saibou Kougaku (Cell Tec  8 Tanpakushitsu.Kakusan.K 1997,  9 Tetsuji Kametani, Nankodo 10 Handbook of Fluorescent pp. 503 and 531-540.  11 Protective Groups in Orga 405.  12 English Language Abstrace 13 Angew. Chem., Int. Ed. (19 14 Anal. Chem. (1998), 70(13 15 Bioorganic & Medicinal Che 16 Bioorg. Khim. (1995), 21(1 17 Sci. China, Ser. B: Chem. 18 J. Am. Chem. Soc. (1996)	6 2 0 1 1 3 4 03/13/01 5 8 7 4 5 9 0 02/23/99 5 2 0 8 1 4 8 05/04/93 6 5 2 5 0 8 8 02/25/03 5 6 5 6 4 3 3 08/12/97 5 6 2 2 8 2 1 04/22/97 5 6 3 9 6 1 5 06/17/97 4 8 9 1 0 7 5 01/02/90 4 9 6 8 6 3 1 11/06/90 5 3 4 0 7 1 6 08/23/94 5 8 0 0 9 9 6 09/01/98  FOREIGN PAT  DOCUMENT NUMBER DATE  DOCUMENT NUMBER DATE  DOCUMENTS (Including Arrivation of the company of the c	6 2 0 1 1 3 4 03/13/01 NAGAN 5 8 7 4 5 9 0 02/23/99 NAGAN 5 2 0 8 1 4 8 05/04/93 HAUGL 6 5 2 5 0 8 8 02/25/03 NAGAN 5 6 5 6 4 3 3 08/12/97 SELVIN 5 6 2 2 8 2 1 04/22/97 SELVIN 5 6 3 9 6 1 5 06/17/97 SELVIN 4 8 9 1 0 7 5 01/02/90 DAKUBI 4 9 6 8 6 3 1 11/06/90 DAKUBI 5 8 0 0 9 9 6 09/01/98 LEE et a  FOREIGN PATENT DOCU  DOCUMENT NUMBER DATE COU  DOCUMENT NUMBER DATE COU  DOCUMENT S(Including Author, Title, 6 Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12/19/97,  Saibou Kougaku (Cell Technology), 17, pp. 584-1997,  9 Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-21 10 Handbook of Fluorescent Probes and Researc pp. 503 and 531-540.  11 Protective Groups in Organic Synthesis, T. W. (405.)  12 English Language Abstract of JP 2000-239272. 13 Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209 14 Anal. Chem. (1998), 70(13), pp. 2446-2453. 15 Bioorganic & Medicinal Chemistry, Vol.4, No.6, p. 16 Bioorg. Khim. (1995), 21(10), pp. 795-801, 17 Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549 18 J. Am. Chem. Soc. (1996), 118, pp. 6514-6515, DA	6 2 0 1 1 3 4 03/13/01 NAGANO et al.  5 8 7 4 5 9 0 02/23/99 NAGANO et al.  5 2 0 8 1 4 8 05/04/93 HAUGLAND et al.  6 5 2 5 0 8 8 02/25/03 NAGANO et al.  5 6 5 6 4 3 3 08/12/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  4 8 9 1 0 7 5 01/02/90 DAKUBU et al.  4 9 6 8 6 3 1 11/06/90 DAKUBU  5 3 4 0 7 1 6 08/23/94 UIIMAN et al.  5 8 0 0 9 9 6 09/01/98 LEE et al.  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER DATE COUNTRY  OO - 2 3 9 2 7 2. 05/09/00 JAPAN  7 5 1 5 8 6 10/14/99 W.I.P.O  OTHER DOCUMENTS (Including Author, Title, Date, Pertine)  6 Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 7 Saibou Kougaku (Cell Technology), 17, pp. 584-595, 1998  8 Tanpakushitsu. Kakusan. Kouso (Protein, Nucleic Acid and 1997,  9 Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997.  10 Handbook of Fluorescent Probes and Research Chemica pp. 503 and 531-540.  11 Protective Groups in Organic Synthesis, T. W. Greene, Jo 405.  12 English Language Abstract of JP 2000-239272.  13 Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212  14 Anal. Chem. (1998), 70(13), pp. 2446-2453.  15 Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916  16 Bioorg. Khim. (1995), 21(10), pp. 795-801,  17 Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555.  18 J. Am. Chem. Soc. (1996), 118, pp. 6514-6515,	6 2 0 1 1 3 4 03/13/01 NAGANO et al.  5 8 7 4 5 9 0 02/23/99 NAGANO et al.  5 2 0 8 1 4 8 05/04/93 HAUGLAND et al.  6 5 2 5 0 8 8 02/25/03 NAGANO et al.  5 6 5 6 4 3 3 08/12/97 SELVIN et al.  5 6 2 2 8 2 1 04/22/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  4 8 9 1 0 7 5 01/02/90 DAKUBU et al.  4 9 6 8 6 3 1 11/06/90 DAKUBU  5 3 4 0 7 1 6 08/23/94 UIIMAN et al.  5 8 0 0 9 9 6 09/01/98 LEE et al.  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER DATE COUNTRY CLASS  00 - 2 3 9 2 7 2. 05/09/00 JAPAN  7 5 1 5 8 6 10/14/99 W.I.P.O  OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.  Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996  Koikougaku (Cell Technology), 17, pp. 584-595, 1998  Tanpakushitsu. Kakusan. Kouso (Protein, Nucleic Acid and Enzyme), etc. 1997.  9 Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997.  10 Handbook of Fluorescent Probes and Research Chemicals, 6th Edit pp. 503 and 531-540.  11 Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & 405.  12 English Language Abstract of JP 2000-239272.  13 Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212  14 Anal. Chem. (1998), 70(13), pp. 2446-2453.  15 Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916, (1996)  16 Bioorg. Khim. (1995), 21(10), pp. 795-801,  Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555.  18 J. Am. Chem. Soc. (1996), 118, pp. 6514-6515,	6 2 0 1 1 1 3 4 03/13/01 NAGANO et al.  5 8 7 4 5 9 0 02/23/99 NAGANO et al.  5 2 0 8 1 4 8 05/04/93 HAUGLAND et al.  6 5 2 5 0 8 8 02/25/03 NAGANO et al.  5 6 5 6 4 3 3 08/12/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  4 8 9 1 0 7 5 01/02/90 DAKUBU et al.  4 9 6 8 6 3 1 11/06/90 DAKUBU  5 3 4 0 7 1 6 08/23/94 UIIMAN et al.  5 8 0 0 9 9 6 09/01/98 LEE et al.  FOREIGN PATENT DOCUMENTS  DOCUMENT NUMBER DATE COUNTRY CLASS SUBOUT ET AL.  DOCUMENT NUMBER DATE COUNTRY CLASS SUBOUT ET AL.  TOTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)  Koke, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996  Tanpakushitsu. Kakusan. Kouso (Protein, Nucleic Acid and Enzyme), extra nu. 1997,  9 Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997.  10 Handbook of Fluorescent Probes and Research Chemicals, 6th Edition by pp. 503 and 531-540.  11 Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & Sons, 405.  12 English Language Abstract of JP 2000-239272.  13 Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212  14 Anal. Chem. (1998), 70(13), pp. 795-801,  50 Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555.  18 J. Am. Chem. Soc. (1996), 118, pp. 6514-6515,  DATE CONSIDERED	6 2 0 1 1 1 3 4 03/13/01 NAGANO et al.  5 8 7 4 5 9 0 02/23/99 NAGANO et al.  5 2 0 8 1 4 8 05/04/93 HAUGLAND et al.  6 5 2 5 0 8 8 02/25/03 NAGANO et al.  5 6 5 6 5 6 4 3 3 08/12/97 SELVIN et al.  5 6 5 6 5 6 4 3 3 08/12/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  5 6 3 9 6 1 5 06/17/97 SELVIN et al.  4 8 9 1 0 7 5 01/02/90 DAKUBU et al.  4 8 9 6 8 6 3 1 11/06/90 DAKUBU  5 3 4 0 7 1 6 08/23/94 UIIMAN et al.  5 8 0 0 9 9 6 09/01/98 LEE et al.  FOREIGN PATENT DOCUMENTS   DOCUMENT NUMBER DATE COUNTRY CLASS SUBCLASS  00 7 5 1 5 8 6 10/14/99 W.I.P.O  OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)  6 Koike, T., et al., J. Am. Chem. Soc., 118, pp. 12696-12703, 1996  7 Saibou Kougaku (Cell Technology), 17, pp. 584-595, 1998  8 Tanpakushitsu. Kakusan. Kouso (Protein, Nucleic Acid and Enzyme), extra number, 4 1997,  9 Tetsuji Kametani, Nankodo Co., Ltd., pp. 214-215, 1997.  10 Handbook of Fluorescent Probes and Research Chemicals, 6th Edition by Richard pp. 503 and 531-540.  11 Protective Groups in Organic Synthesis, T. W. Greene, John Wiley & Sons, Inc. pp. 405.  12 English Language Abstract of JP 2000-239272.  13 Angew. Chem., Int. Ed. (1999), 38(21), pp. 3209-3212  14 Anal. Chem. (1998), 70(13), pp. 2446-2453.  15 Bioorganic & Medicinal Chemistry, Vol.4, No.6, pp. 901-916, (1996)  16 Bioorg. Khim. (1995), 21(10), pp. 795-801,  Sci. China, Ser. B: Chem. (1998), 41(5), pp. 549-555.  18 J. Am. Chem. Soc. (1996), 118, pp. 6514-6515,  DATE CONSIDERED	6 2 0 1 1 1 3 4 03/13/01 NAGANO et al.

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Atty. Dockerno. P27709

Application No. 10/531,664

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)

Applicant Tetsuo NAGANO et al.

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		5	6	3	9	6	1	5	06/17/97	SELVI	N et al.					
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	19								Zinc-Seled n. Soc., Vol.							ogical
	20								ew Cell-Perr D, pp. 5644-		luorescent	Probe for Z	Zn <sup>2+</sup> ", J	J. Am. C	hem. Soc	., Vol.
	21	Bi		ces	s ar	nd C	linic	al N	otential App Monitoring",							
	22	G		Films	s",	Sens			e-Based Opt d Actuators							
	23	Flo	uore	esce	nce	Ene	rgy	Tra	ninescence I nsfer", Proce shington, DC	edings c	of the Nation	ial Academ	y of S	cience o	of USA, Na	
	24	Er	nglis	h La	angu	ıage	Ab	strac	t of JP 9-10	1262.						
	25	Er	nglis	h La	angu	ıage	Ab	strac	t of JP 5-18	0773.						
	26	Er	nglis	h La	angi	ıage	Ab	strac	t of JP 10-8	8124.						
	27	Er	nglis	h La	angu	ıage	Ab	strac	t of JP 2000	)-111480						
	28	Bi		hno	logy	r", B			alization of f Kagaku –							
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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		5	3	9	3	5	1	4	02/28/95	PITNER	et al.					
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				0	THEF	R DO	CUM	ENT	S (Including A	uthor, Title,	Date, Pertin	ent Pages, Et	c.)			
	29	Ro	oger	s, M	l. V.,	Dru	ıg D	isco	very Today,	Vol. 2, pp	. 156-160,	1997.				
	30	Se	elvin	, P.	R., 6	et al	., J.	Am.	Chem. Soc	., Vol. 117	', pp. 8132	-8138, 199	5.			
	31	St	ryer	, L.,	Ann	ı. Re	ev. E	Bioch	nem., Vol. 47	, pp. 819	-846, 1978					
	32	He	∍mm	nilä,	I., e	t al.,	Dru	ıg D	iscovery Too	day, Vol. 2	2, pp. 373-	381, 1997.				
	33	Ne	ew A	\pop	tosi	s Ex	peri	mer	ntal Protocol,	2nd ed.,	Yodosha,	pp. 201-204	, 1999	9		
	34	Se	elvin	, P.	R., €	et al	., J.	Am.	Chem. Soc	., Vol. 116	, pp. 6029	-6030, 1994	1			
	35		BUF 5. 97		•			ition	of Horse-Li	ver Estera	ase by Rho	odamine B,"	Bioch	emical J	ournal, V	'ol. 59,
	36	Na		nal A					urescence e ences of the							
	37								erization of <sup>-</sup> 9, pp. 5057-			ding Sites t	y Diffi	usion-En	hanced E	Energy
	38	De	R.A. EDWARDS et al., "Spectroscopic Studies of Cibacron Blue and Congo Red Bound to Dehydrogenases and Kinases. Evaluation of Dyes as Probes of the Dinucleotide Fold," Biochemistry, Vol. 18, No. 23, pp. 5197-5204 (1979).													
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5. Department of Commerce Patent and Trademark Office

Atty. Dockerno. P27709 Application No. 10/531,664

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary) Applicant
Tetsuo NAGANO et al.

Filing Date October 15, 2003 Group Unknown

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		C	THE	R DOCUM	ENT	S (Including A	iding Author, Title, Date, Pertinent Pages, Etc.)								
	39						ced Energy Transfe ochemistry, 20, pp.			Ribonucleic Acid					
	40						operties of Myoglob 6254 (1983).	oin Probed b	y Diffusion-Er	hanced Energy					
	41		Cor	formatic			Cibacron Blue F <sub>3</sub> G udies Using Unfrac								
	42	Cobalt(III)	T.G. WENSEL et al., "Diffusion-Enhanced Lanthanide Energy-Transfer Study of DNA-Bound Cobalt(III) Bleomycins: Comparisons of Accessibility and Electrostatic Potential with DNA Complexes of Ethidium and Acridine Orange," Biochemistry, 24, pp. 3060-3069 (1985).												
	43	B.S. ISAACS et al., "A Domain of Membrane-Bound Coagulation Factor Va Is Located Far from Phospholipid Surface. A Fluorescence Energy Transfer Measurement," Biochemistry, 25, pp. 45969 (1986).													
	44						logical Macromole Common Metals, 14			ced Lanthanide					
	45					minescence . 6029-6030	Resonance Ene (1994).	rgy Transfe	r," Journal of	the American					
	46	Surface of	of A	ctin by	Diffι	etermination sion-enhand 5. 714-731 (1	of Electrostatic Popel Fluorescence (1994).	otential Arou Resonance	und Specific L Energy Trans	ocations on the fer," Journal of					
	47	S.C.J. MESKERS et al., "Analysis of Delayed Luminescence from Some Quenchers of Tb(DPA) <sub>3</sub> Emission: Proof for an Energy Transfer Quenching Mechanism," Journal of Alloys and Compounds 250, pp. 332-335 (1997).													
	48	D.D. ROOT, "In situ Molecular Association of Dystrophin with Actin Revealed by Sensitized Emission Immuno-Resonance Energy Transfer," Proceedings of the National Academy of Sciences of the United States of America, 94, pp. 5685-5690 (1997).													
	49		ry S	ubunits (			lding of Two Fluor dent Protein Kinase								
	YW. PARK et al., "Homogeneous Proximity Tyrosine Kinase Assays: Scintillation Proximity Assay versus Homogeneous Time-resolved Fluorescence," Analytical Biochemistry, 269, pp. 94-104 (1999).														
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\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Application No. 10/531,664

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Applicant Tetsuo NAGANO et al.

Filing Date October 15, 2003 Group Unknown

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	51	Flu	BLOMBERG et al., "Terbium and Rhodamine as Labels in a Homogeneous Time-resolved uorometric Energy Transfer Assay of the β Subunit of Human Chorionic Gonadotropin in Serum," inical Chemistry, 45, 855-861 (1999).													
	52	Flu	L. PEARCE et al., "Role of Metallothionein in Nitric Oxide Signaling as Revealed by a Green Fluorescent Fusion Protein," Proceedings of the National Academy of Sciences of the United States of America, 97, pp. 477-482 (2000).													
	53								Devèlopmen gy Transfer,"							Using
	54	Er	nglis	h La	ıngu	age	Abs	strac	t of JP 60-5	4381.					_	
	55	T.	NA ee F	GAN Radio	IO e	et al. in C	, "S linio	pec cal N	ific Detection Medicine, Vo	n Method l. 7, pp. 3	and Usefu 5-41 (1993)	l Generatino	System	of Sin	iglet Oxy	/gen,"
	56								ubstituted Po 07, pp. 6329			as a Rever	sible Sing	let Ox	ygen Ca	ırrier,"
	57		T. W. Greene et al., "Protective Groups in Organic Synthesis," John Wiley & Sons, Inc., pp. v-xxi and 369-405 (1981)													
	58	J. KABATC et al., "Free Radical Polymerization Initiated via Photoinduced Intermolecular Electron Transfer Process: Kinetic Study 3 <sup>1</sup> ," Polymer 40(3), pp. 735-745 (1999).														
	59	De	evel	opm	ent	of N	love	l Fl	, "Fluoresce ourescence 57, (2000).	ence Swi Probes to	tching by Detect R	O-dearyla eactive Oxy	tion of gen," J.	7-arylo Chem	oxycoum . Soc., F	arins. Perkin
	60			IRT 8-30					Phenoxy-2I	H-benzo[b	]pyrans," J	. Chem. Re	search (S	S), Vol	. 2000, I	No. 7,
	61	J.( Sy	.G. REYES et al., "A Fluorescence Method to Determine Picomole Amounts of Zn(II) in Biological systems," Biol. Res., Vol. 27, pp. 49-56, (1994).													
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EXAMINER DATE CONSIDERED

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	62	Fo	rebi	rain	Isch		a in						Is Induced . 17, No. 17,		
	63	Ma	KOIKE et al., "A Novel Biomimetic Zinc(II) – Fluorophore, Dansylamidoethyl-Pendant Macrocyclic Tetraamine 1,4,7,10-Tetraazacyclododecane (Cyclen)," J. Am. Chem. Soc., Vol. 118, 996, pp. 12696-12703.												
	64	en An 29	Web site of the Pharmaceutical Society of Japan, on February 1, 2003, a copy of the screenshot is enclosed. The subject matter of the screenshot was then published in an Abstract of "The 123" Annual Congress of the Pharmaceutical Society of Japan" on March 5, 2003 for presentation No 29[P1]I-219 entitled "Development of Fluorescent Probe Having Low Affinity for Zinc" in the 123 Annual Congress of the Pharmaceutical Society of Japan held on March 27-29, 2003.											e 123 <sup>rd</sup> on No.	
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	67	Newport Green: A Catalog of Molecular Probes, Inc. "Handbook of Fluorescent Probes and Research Chemical, Chapter 22 – Section 22.7 Fluorescent Indicators for Zn <sup>2+</sup> and Other Metals", 6 <sup>th</sup> Edition by Richard P. Haugland, pp. 531-540 (1996).													
	68								anpakushits 997).	u-Kakusa	n-Kouso (F	rotein, Nuc	leic Acid and	Enzyme)	", Vol.
	69	ΑN	NDE	REC	3G e	et al.	, Не	elvel	ica Chimica	Acta, Vo	50, pp. 23	30-2333 (1	967).		
	70	Ap		atio									cules Suitabl 2, No. 49, pp		
EXAMINER										D/	ATE CONSI	DERED			

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	9	5 1 5 8 6	10/14/99	JAPAN			
		OTHER DOCUMENTS	(Including Au	thor, Title, Date, Pertir	nent Pages, Etc	c.)	
	71	R.P. HAUGLAND, "Hand Supplement, Chapter 20, p			and Rese	earch Product	s," 9 <sup>th</sup> Edition
	72	G.K. WALKUP et al., "A N Chemical Society, Vol. 122	ew Cell-Peri 2, No. 23, pp	meable Fluorescen . 5644-5645 (2000)	t Probe for Z	n²+," Journal o	of the American
	73	J. KAWAKAMI et al., "A (quinolinecarboxy) methyl Journal of Computer Chen	pyridine as	Fluorescent Chem	nosensors fo	or Zinc and C	ism of 2,6-Bis admium lons,'
	74	C.J. FREDERICKSON et histochemically reactive zi pp 91-103 (1987).	al., "A quin nc (bouton z	oline fluorescence inc) in the brain," J	method for ournal of Ne	visualizing an euroscience Me	d assaying the ethods, Vol. 20,
	75	D. ZALEWSKI et al., "Corr [(2-methyl-8-p-toluenesulp Zn(II)," Biochemical Journal	honamido-6-	-quinolyloxy)acetic	acid], a new	ular labile Zn(II specific fluore	l) using Zinquin scent probe for
	76	English Language Abstrac	t of JP 10-22	26688.			
	77	L. LINDQVIST et al., "Rad 1711-1712 (1966).	diationless T	ransitions in Xanth	ene Dyes",	J. Chem. Phy	s., Vol. 44, pp.
	78	Richard P. HAUGLAND, F Chapters 22 - 24, pp. 503-	landbook of 584 (1996).	Fluorescent Probe	s and Resea	arch Chemicals	s, Sixth Edition,
	79	Theodora W. Greene, Prof	ective Group	os in Organic Synth	esis, Chapte	er 7, pp. 218-28	37 (1981).
	80	English Language Abstrac	t of JP 08-27	14430.		·	
	81	Rajendra Nath SEN et a Hydroxy Aromatic Compou	I., "The Cor unds", J. Am	ndensation of Prim	ary Alcohol 7, pp. 1079-	s with Resorc 1091 (1925), )	inol and Other CP002332482.
	82	R. KURDUKER et al., "S Sect. A., Vol. 57, pp. 280-2	earch for P 287 (1963).	hysiologically Activ	e Compoun	ds", Proc. Ind	ian. Acad. Sci.
	83	A. MINTA et al., "Fluor Fluorescein Chromophore					
	84	P.K. Grover et al., "X Hydroxybenzophenones,"	anthones. J. Chem. Sc	Part IV. A New i. (London), pp. 398	Synthesis 32-3985 (195	of Hydroxyx 55).	anthones and
	85	English language Abstract	of JP 10226	688.			
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